IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (Currently Amended) A channel down mixing apparatus for a car audio system, which has a channel down mixing function for down mixing a sub-woofer signal to an L (left) channel and an R (right) channel when a user does not select a sub-woofer speaker on/off signal terminal, the apparatus comprising:

a pair of buffers that ~~amplifies~~ amplify an L channel input signal and an R channel input signal to a designated gain, respectively, in which a resistor is serially provided before each respective buffer;

a pair of FETs that ~~mixes~~ mix the sub-woofer signal with the L channel input signal and the R channel input signal when the user does not select the sub-woofer speaker on/off signal terminal, and ~~outputs~~ output a mixed signal to each of the buffers;

a pair of parallel resistors connected in parallel to the serial resistors that are inserted between an output end of each of the FETs and an input end of each of the buffers;

a first transistor ~~being~~ configured to be turned on when the user turns on the sub-woofer speaker on/off signal terminal; and

a second transistor and a third transistor, which are configured to be turned off when the first transistor is turned on and turned off when the first transistor is turned on, thereby reducing the L channel input signal and the R channel input signal to a designated level, respectively.

2. (Currently Amended) A channel down mixing apparatus for a car audio system, which has a channel down mixing function for down mixing a sub-woofer signal to an L (left) channel and an R (right) channel when a user does not select a sub-woofer speaker, the apparatus comprising:

a pair of buffers that ~~amplifies~~ amplify an L (left) channel input signal and an R (right) channel input signal to a designated gain, in which a resistor is serially inserted before the respective buffers;

a pair of FETs that ~~mixes~~ mix the sub-woofer signal with the L channel input signal and the R channel input signal when the user does not select the sub-woofer speaker, and ~~outputs~~ output a mixed signal to each of the buffers;

a pair of parallel resistors connected in parallel to the serial resistors that are inserted between an output end of each of the ~~FET~~ FETs and an input end of each of the ~~buffer~~ buffers;

a first transistor ~~being~~ configured to be turned on when the user turns on the sub-woofer speaker; and

a second transistor and a third transistor, which are configured to be turned off when the first transistor is turned on and turned off when the first transistor is turned on, wherein the second and third transistors earth each of the parallel resistors when turned on, thereby reducing the level of the L channel input signal and the R channel input signal by a resistance ratio of the serial resistor to the parallel resistor.

3. (New) The channel down mixing apparatus for a car audio system according to claim 1, wherein the sub-woofer signal inputs to each source terminals of the FETs.

4. (New) The channel down mixing apparatus for a car audio system according to claim 1, wherein the sub-woofer speaker on/off signal terminal is connected to each gate terminals of the FETs.

5. (New) The channel down mixing apparatus for a car audio system according to claim 4, wherein the sub-woofer speaker on/off signal terminal is further connected to a base terminal of the first transistor.

6. (New) The channel down mixing apparatus for a car audio system according to claim 1, wherein a driving voltage input end is connected to a collector of the first transistor.

7. (New) The channel down mixing apparatus for a car audio system according to claim 6, wherein the driving voltage input end is further connected to each gate terminal of the second and third transistors.

8. (New) The channel down mixing apparatus for a car audio system according to claim 1, wherein the first, second and third transistors are NPN bipolar transistors.

9. (New) The channel down mixing apparatus for a car audio system according to claim 2, wherein the sub-woofer signal inputs to each source terminals of the FETs.

10. (New) The channel down mixing apparatus for a car audio system according to claim 2, wherein the sub-woofer speaker on/off signal terminal is connected to each gate terminals of the FETs.

11. (New) The channel down mixing apparatus for a car audio system according to claim 10, wherein the sub-woofer speaker on/off signal terminal is further connected to a base terminal of the first transistor.

12. (New) The channel down mixing apparatus for a car audio system according to claim 2, wherein a driving voltage input end is connected to a collector of the first transistor.

13. (New) The channel down mixing apparatus for a car audio system according to claim 12, wherein the driving voltage input end is further connected to each gate terminal of the second and third transistors.

14. (New) The channel down mixing apparatus for a car audio system according to claim 2, wherein the first, second and third transistors are NPN bipolar transistors.